

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
23 January 2003 (23.01.2003)

PCT

(10) International Publication Number  
**WO 03/007464 A2**

(51) International Patent Classification<sup>7</sup>: H02M  
(21) International Application Number: PCT/IT02/00448  
(22) International Filing Date: 9 July 2002 (09.07.2002)  
(25) Filing Language: English  
(26) Publication Language: English  
(30) Priority Data:  
VA2001A000022 11 July 2001 (11.07.2001) IT  
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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,  
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,  
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

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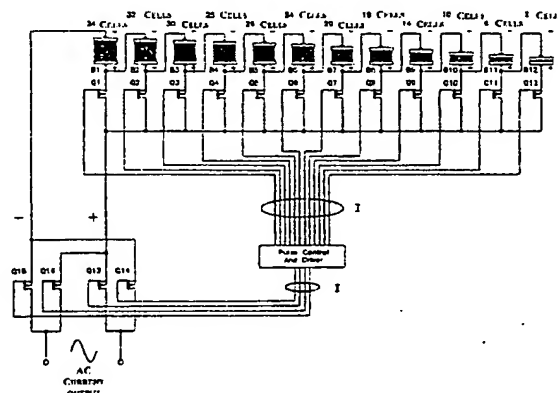
Published:

— without international search report and to be republished  
upon receipt of that report

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

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(54) Title: TRASFORMERLESS STATIC VOLTAGE INVERTER FOR BATTERY SYSTEMS



(57) Abstract: A static inverter for a battery of elementary current sources or cells electrically in series and a number N of inter-  
mediate voltage taps along the chain of elementary DC current sources, wherein the number of elementary cells comprised between  
an intermediate tap and another intermediate tap adjacent to it or an end terminal of said chain is proportionate to the amplitude in  
the respective phase interval of a number N of discretization phases of the waveform of the AC voltage to be output in a quadrant; is  
implemented by arranging for: a number N of power switches each connecting a respective intermediate tap and a first end terminal  
of a first polarity of said chain of elementary cells in series to a common circuit node of said first polarity; an output bridge stage  
constituted by at least four power switches controlled in pairs for switching the current paths through the bridge stage, having a first  
pair of nodes coupled to said common circuit node of said first plurality and to the other end terminal of polarity opposite to said first  
polarity of said chain of elementary cells, respectively, and a second pair of nodes constituting an AC output; and a control circuit  
sequentially and cyclically turning on, in a continuous manner, one switch at the time of said N switches; each for a phase interval  
of 1/(4N) times the period of said AC output, and alternately turning on by pairs said four power switches of said output bridge stage  
at every half a period.

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